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08/366,339	12/28/94	KEESMAN G	PHB-33-946

EXAMINER	
RAO, A	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No. 08/366,339	Applicant(s) Keesman
	Examiner A. Rao	Group Art Unit 2615

☒ Responsive to communication(s) filed on *Jan 25, 1996* .

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire *3* month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) *1-9* is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) *1-9* is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____ .

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____ .

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

Part III DETAILED ACTION

Response to Amendment

1. Applicant's arguments with respect to claims 1-9 as filed in Paper 5 on 1/25/96 have been considered but are deemed to be moot in view of the new grounds of rejection.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-2 and 5 rejected under 35 U.S.C. § 102(b) as being anticipated by Lhuillier et al.

Lhuillier discloses a method of compression for transmission of an encoded digital video signal bit stream (Lhuillier: column 2, lines 42-54), comprising the steps of: detecting a first bit rate of the encoded digital video signal bit stream (Lhuillier: column 2, line 68); sequentially writing the encoded digital video signal bit stream into a buffer at said first bit rate (Lhuillier: column 3, lines 1-3); deriving a second bit rate as a percentage of the first bit rate, changes in which percentage are inversely related to changes in the first bit rate (Lhuillier: column 4, equation (3)); and reading out the encoded digital

video signal bit stream from the buffer at the second bit rate (Lhuillier: column 5, lines 22-55) as in claim 1.

Regarding claim 2, Lhuillier discloses that the second bit rate can equal the first bit rate for a specified range of first bit rate values (Lhuillier: column 4, lines 39-41) as in the claim.

Regarding claim 5, Lhuillier discloses a video signal apparatus operable to encode a digital video signal for transmission, the apparatus comprising: an encoder stage operable to encode a received video signal according to a predetermined coding scheme and to output the signal as a variable bit-rate data stream (Lhuillier: column 2, lines 38-51); a buffer coupled to receive said variable bit-rate data stream from the encoder and arranged to output a data signal for transmission (Lhuillier: column 2, lines 51-59); characterized by means operable to detect the bit rate of the variable bit-rate data stream (Lhuillier: column 2, lines 54-58), to derive a second bit-rate as a percentage of the encoder stage output bit-rate, which percentage changes in inverse relation to the changes of the encoder stage output rate (Lhuillier: column 4, lines 6-68), and to control the buffer output data signal bit rate as said second bit-rate (Lhuillier: column 5, lines 20-55) as in claim 5.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

> A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
>
> Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

5. Claims 3-4, and 6-9 are rejected under 35 U.S.C. § 103 as being unpatentable over Lhuillier in view of Reininger et al.

Lhuillier has a majority of the features of claims as discussed above in reference to independent claims 1 and 5. However, the Lhuillier reference does not particular disclose the use of the VBR encoder in a MPEG environment and the use of successive groupings of frames of input video signals for detection of the first bit rate for the derivation of the second bit-rate as claimed. Reininger discloses the use of a conventional VBR predictive encoder (Reininger: column 6, lines 15-57) in which a first bit-rate is computed according to successive groupings of frames (Reininger: column 5, lines 1-50) for changing a quantization step size (Reininger: column 4,

lines 27-50). It would have been obvious to one of ordinary skill in art to incorporate the Reininger teaching of a conventional motion compensation predictive encoder into the Lhuillier apparatus in order to conform to the MPEG standard (Reininger: column 2, lines 28-47). The incorporation of the Reininger encoder with the Lhuillier apparatus would utilize the computed first bit-rate, particular to each frame type of a group of pictures (Reininger: column 3, lines 5-55), as in place of the n_i input into the Lhuillier regulation circuitry (Lhuillier: figure 1, element) for computing the second bit-rate d_i; and the output of the Lhuillier regulation circuitry (Lhuillier: column 5, lines 59-60) would be input to the Reininger rate counter (Reininger: column 6, lines 48-50) to determine the quantization step size in accordance with d_i. The Lhuillier apparatus, now incorporating the Reininger motion compensation predictive encoder in place of the disclosed Lhuillier encoder as explained above, has all of the features of invention as in claims 3, 7, and 9.

Regarding claims 4 and 6, the Lhuillier apparatus, now incorporating the Reininger motion compensation predictive encoder in place of the disclosed Lhuillier encoder as explained above, has signals encoded according to the MPEG standard (Reininger: column 2, lines 28-66) as in the claims.

Regarding claim 8, the Lhuillier apparatus, now incorporating the Reininger motion compensation predictive encoder in place of the disclosed Lhuillier encoder as explained

above, is characterized in that the instantaneous bit rate of the signal is inversely related to the bit density of an image frame N frame periods later where N is determined by said bit density (Reininger: column 4, lines 50-68; column 5, lines 1-35) as in the claim.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anand Rao whose telephone number is (703) 305-4813.

AR
asr
April 26, 1996

TOMMY P. CHIN
SUPERVISORY PATENT EXAMINER
GROUP 2600